interconnectors take service in the central office and benefit from such costs, these interconnectors must pay the LEC their proportionate share of the remaining undepreciated value of the common physical collocation assets. Moreover, we require the LEC to refund to the initial interconnectors an amount reflecting the full amount of the charges for common costs collected from the subsequent interconnectors. We find that properly calculated prorated refunds are a reasonable, cost-based method of equitably apportioning the common costs among interconnectors. It also prevents LECs from being able to recover such costs again from subsequent interconnectors.

47. In addition, we find that it would not be unreasonable for LECs to recover common physical collocation construction costs through recurring charges that are divided evenly between an initial interconnector and a subsequent interconnector that shares the same common physical collocation assets with the initial interconnector. This approach requires, a LEC to reduce the recurring charge that the initial interconnector pays for common physical collocation assets on the date that a subsequent interconnector takes physical collocation service and to charge the subsequent interconnector the same recurring charge that the initial interconnector pays from that day forward. The initial interconnector would not, however, be entitled to refund of any recurring charges that it had paid prior to the date on which the subsequent interconnector takes service because the common physical collocation assets depreciate from the date that the initial interconnector takes physical collocation service. Under this approach, the initial interconnector and the subsequent interconnector pay for an equal share of remaining unrecovered value of the common physical collocation assets beginning on the date the subsequent interconnector takes physical collocation service.

48. Finally, we find that it would not be unreasonable for LECs to charge initial interconnectors a portion of common construction costs based on total estimated demand by interconnectors for physical collocation service. We find that this is a permissible, cost-based method of apportioning common construction costs among interconnectors, provided that the LECs reasonably estimate the number of interconnectors requesting physical collocation at each central office where such service is offered. If a LEC were to underestimate the expected demand for physical collocation service in a central office, an interconnector could be required to pay unreasonably high rates for the recovery of common construction costs, and the LEC would recover more than the initial costs of the common construction. In this Order, we determine whether LECs reasonably estimated the demand for physical collocation service by determining the reasonableness of their common construction costs.[115] To the extent that certain LECs' demand estimates resulted in unreasonable charges for common construction, we make disallowances in Sections III.C.1.c and III.C.2.h of this Order.

49. We find that those LECs that take the first approach, but that limit the number of interconnectors that may receive refunds, did not adequately justify such a limitation. We are not convinced that it would be burdensome to administer refunds based on the actual

[115] *See* Sections III.C.1.c, III.C.2.h *infra.*

number of interconnectors taking service in a central office. Contrary to Pacific's contention, we find that the incremental benefit to interconnectors of receiving refunds for their proportionate share of common costs outweighs the administrative costs of continuing a refund program without limits on the number of interconnectors that may participate in the refund program. Moreover, we will not permit LECs to place a time limit on their refund obligation. We order LECs to provide pro rated refunds to any interconnector that has taken physical collocation service prior to the date on which another interconnector takes physical collocation, to the extent that the initial and the subsequent interconnectors use the same physical assets that comprise the common construction. Accordingly, as explained above, LECs must revise their tariffs to provide for the proration of refunds. If any LEC charged initial interconnectors a nonrecurring charge for common construction to recover the entire common construction costs in a central office, and at least one subsequent interconnector has taken service in that office, we require the LEC to provide the initial interconnectors with pro rated refunds, if it has not already done so, in accordance with the principles outlined above.

50. We also find that LECs that recover common construction costs through recurring charges must revise their tariffs to provide for equal division of common construction costs in a central office among all interconnectors that share the same common physical collocation assets. If a LEC imposed a recurring charge on an initial interconnector to recover common physical collocation construction costs in a central office, and at least one subsequent interconnector has taken service in that central office and uses those same assets, we require the LEC to provide the initial interconnector and the subsequent interconnector with refunds, if it failed to revise its recurring charges to reflect an equal division of common construction direct costs recovery. If a LEC failed to reduce the recurring charge imposed on the initial interconnector and subsequent interconnector for common physical collocation assets on the date a subsequent interconnector takes service, the LEC is required to refund the difference between the charges it imposed on these interconnectors and the charges it should have imposed to reflect an equal division of common construction cost recovery.

51. NYNEX develops a unique method of apportioning construction costs among interconnectors: it averages both common and interconnector-specific costs for 12 multiplexing nodes used for intrastate expanded interconnection. NYNEX does not provide, however, any supporting data or justification for its methodology. NYNEX also fails to demonstrate that its costs for intrastate expanded interconnection are relevant to a calculation of construction costs for interstate expanded interconnection. Nevertheless, we determine the reasonableness of NYNEX's direct common construction costs through our average cost analysis of common construction direct costs in Section III.C.2.h of this Order.

6. Payment of Interconnector-Specific Charges by Subsequent Interconnector

a. Background

52. Only one LEC, BellSouth, gives interconnectors a credit when they vacate a

central office. The credit is equal to the unamortized amount of the space construction charge at the time another interconnector occupies the space. Any subsequent interconnector becomes responsible for paying the remaining unamortized amount of that charge.[116] Bell Atlantic, CBT, and GTE bill the initial interconnector the full nonrecurring charge for cage construction, but do not assess construction charges on a subsequent interconnector that uses the same cage unless the subsequent interconnector orders modifications to the cage. Ameritech, NYNEX, Nevada, Pacific, and SWB impose a nonrecurring charge on both initial interconnectors and subsequent interconnectors for the same space. Rochester, Lincoln, and SNET do not have tariff provisions addressing this issue.

53. In the *Designation Order*, the Bureau asked LECs that assess nonrecurring charges to recover interconnector-specific construction costs associated with cage construction to explain how such a rate structure will avoid double recovery of costs when a subsequent interconnector reuses a cage built for the original interconnector.[117] The Bureau explained that payment of the full amount of construction costs by the first interconnector may lead to double recovery if another interconnector pays for and uses the same construction after it has been vacated by the original interconnector.[118]

b. Discussion

54. We find that where an interconnector pays a nonrecurring charge for interconnector-specific construction or equipment and the interconnector discontinues taking service before the end of the useful life of these assets, the initial interconnector must receive a pro rata refund for the undepreciated value of the assets, if a subsequent interconnector takes service and uses the assets or the LEC uses the assets. That is, if the LEC uses an asset for which an interconnector has paid after that interconnector discontinues service, the LEC will be responsible for paying the interconnector for the undepreciated value of the asset. If the subsequent interconnector uses an asset for which the initial interconnector has paid after the initial interconnector discontinues service, the subsequent interconnector will be responsible for paying the LEC a nonrecurring charge equal to the remaining undepreciated value of this asset and the initial interconnector will receive a credit from the LEC equal to the undepreciated value of the asset at the time the subsequent interconnector takes service and utilizes the asset. This ensures that if it imposes a full nonrecurring charge for an asset on an initial interconnector, a LEC will not be able to recover its costs twice or receive a free benefit, if the initial interconnector discontinues taking service from the LEC. We also find that this approach provides a cost-based method of equitably distributing the costs of an asset among the users of the asset.

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[116] BellSouth Direct Case, Exhibit 5 at 3.

[117] *Designation Order*, 8 FCC Rcd at 6916.

[118] *Id.*

55. We direct those LECs offering tariffed interstate expanded interconnection through physical collocation service to file tariff revisions stating that, if an initial interconnector has paid a nonrecurring charge for an asset and is succeeded by another interconnector who uses that asset, the initial interconnector will be credited the remaining undepreciated amount of the equipment and the cage construction cost upon occupancy by the subsequent interconnector; the subsequent interconnector will be responsible for paying the remaining undepreciated amount of the cost. The tariff revisions also must state that, if the LEC uses an asset for which an interconnector paid a nonrecurring charge, the LEC must make a pro rata refund to the interconnector. For purposes of calculating prorated refunds to interconnectors, LECs should base the life of the equipment and interconnector-specific construction on the economic life of the equipment and the cage. We are stipulating that the economic life of the cage be used as the life of the interconnector-specific construction because it is the cost of the assets in particular that may be recovered twice in the absence of pro rated refunds. If any LEC did not use the procedures outlined above in cases where an initial interconnector abandoned its physical collocation equipment and space after paying a nonrecurring charge for these assets and a subsequent interconnector paid a nonrecurring charge for these same assets or the LEC itself has used these assets, we order the LEC to make prorated refunds as outlined above.

56. We reject NYNEX's suggestion that by not charging a full nonrecurring charge to a subsequent interconnector for use of vacated space, the LEC may discriminate against other interconnectors that must pay a full nonrecurring charge for central office space. This argument does not provide reasonable justification for double recovery of cage construction costs. We find that the mechanism we require in this section prohibits the LEC from recovering its costs twice and prevents unreasonable discrimination against interconnectors.

7. Electric Power

a. Background

57. Bell Atlantic and BellSouth charge for 10 and 40 amp increments of direct current (DC) power, respectively, rather than for actual usage.[119] Pacific charges for DC power in 40 amp increments, contending it is more efficient than providing power in smaller increments.[120] US West charges for electric power based on the amperage levels requested by an interconnector, on a recurring basis, although the nonrecurring charge for power cable installation is billed at the 20, 40 or 60 amp capacity break point which is greater than or equal to the actual amperage requested.[121] Ameritech and CBT charge for power on a per

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[119] Bell Atlantic Direct Case, Attachment B at 33 (10 amps); BellSouth Direct Case, Exhibit 5 at 4-5 (40 amps).

[120] Pacific Direct Case at 57.

[121] US West Direct Case at 70-71.

fuse amp basis.[122] GTE, United, and Central charge for DC power on a per square foot basis.[123] In computing its charge for electric power, GTE assumes that an interconnector within a 100 square foot cage would require 100 amps of such power to operate equipment.[124] SWB charges for 40 or 100 amps of DC power.[125] NYNEX provides electrical power on an actual usage basis and bills the interconnector for that actual usage on a per amp basis.[126] Lincoln charges for power in 15 amp increments, while SNET and Nevada charge for power in 10 amp increments.[127] Rochester charges for DC power on a per kilowatt hour basis.[128]

58. In the *Designation Order,* the Bureau asked LECs that charge for electric power in increments and not based on an actual use to explain why they chose the increment level they did, why they cannot or will not supply power in smaller increments, why they cannot or will not supply power on an actual usage basis, and why the choice they made is reasonable.[129]

b. Discussion

59. We will not require LECs to provide power on a measured, actual use basis because we are not persuaded that such a rate structure would reflect the way costs are incurred better than power offered in increments. LECs rely primarily on batteries for the DC power in their central offices, and it is not clear that the costs they incur for these batteries vary based on the specific amounts of power drawn, as opposed to the overall capacity that they are designed to support. For the LECs to bill power on a measured, actual use basis would require the installation of metering equipment, and it is not clear that the benefits of such a billing arrangement justify the cost of this equipment (which would have to be paid by interconnectors). Moreover, we agree with Pacific and SWB that providing DC power in increments allows an interconnector to add equipment without incurring additional LEC charges for its power needs.[130] Therefore, we conclude that where the electric power increments are established at appropriate levels, an interconnector is able to purchase power in

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[122] Ameritech Direct Case at 22-23; CBT Direct Case, Appendix A at 3.

[123] GTE Direct Case at 33; United and Central Direct Case, TRP charts for DC power and DC power installation.

[124] GTE Direct Case at 33.

[125] SWB Direct Case at 26-28.

[126] NYNEX Direct Case, Appendix B at 6.

[127] SNET Direct Case at 11; Nevada Direct Case at 12; Lincoln Direct Case at 10.

[128] Rochester Direct Case at 4.

[129] *Designation Order*, 8 FCC Rcd at 6917.

[130] Pacific Direct Case at 56; SWB Direct Case at 27.

the quantity that is needed to operate existing equipment properly. At the same time, that quantity may also provide the interconnector with a surplus sufficient to accommodate the requirements of additional equipment without being excessive.[131]

60. We do not find, however, that the charges for DC power on a per square foot basis in GTE's, United's, and Central's tariffs are reasonable. The cost of providing DC power does not vary with the amount of floor space that the interconnector occupies in the central office.

61. Moreover, the method of charging for the cost of DC power in the GTE tariff subject to this investigation requires an interconnector to purchase 100 amps of DC power for a 100 square foot physical collocation space. We conclude that this provision is unreasonable. Most LECs charge for DC power in increments, and no LEC that does so requires interconnectors to purchase DC power in initial increments greater than 40 amps. Moreover, while some interconnectors would prefer the LECs to meter power usage, no interconnector has argued that an initial increment of 40 amps is unreasonable. Thus, GTE's per square foot charge requires an interconnector to make a minimum power purchase of more than twice the number of amps that is the minimum these other LECs require an interconnector to purchase. Accordingly, we find that because it may require an interconnector to purchase an excessive amount of DC power, GTE's per square foot charge for DC power is unreasonable.

8. Unbundling

62. In the *Designation Order*, the Bureau asked the LECs to discuss whether the rate structures in their tariffs require interconnectors to purchase services that they do not need in order to obtain services that they do need.[132] We find that the LECs have not unreasonably bundled their rates for physical collocation service. While some LECs have bundled certain charges such as site preparation and cage construction, we find that in those cases all the services bundled are reasonably necessary for the provision of physical collocation service.

C. Direct Costs

63. The direct costs of providing physical collocation service include capital costs (*i.e.*, depreciation, cost of money, and income taxes) and operating costs (*i.e.*, maintenance costs, administrative and other costs, property, and other taxes) that are attributable to physical collocation service. In the *Designation Order*, the Bureau directed LECs to provide disaggregated unit investments and expenses for most recurring and nonrecurring expanded

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[131] We examine, below, LECs' direct costs of providing power and make rate prescriptions where appropriate. *See* Section III.C.2.e *infra.*

[132] *Designation Order*, 8 FCC Rcd at 6916.

interconnection rate elements on TRP charts.[133] The Bureau observed that LECs adopted a variety of rate structures, which created confusion over the costs to be recovered by rates for particular rate elements.[134] The TRP disaggregated expanded interconnection service into 14 "functions" in order to remove this confusion and to facilitate the Bureau's investigation into the reasonableness of the rate levels established in the LECs' physical collocation tariffs.[135] Depending on the rate structure chosen by an individual LEC, a particular function may include several rate elements. These functions are identified and explained below:

Costs of the Collocation Facility in the Central Office

(1) Floor Space. Floor space direct costs include costs for occupancy of central office floor space by the interconnector, including all ancillary and "housekeeping" services.[136]

(2) Construction Provisioning. Construction provisioning direct costs include the costs of ordering the interconnector's space and cage, *i.e.*, interconnector-specific costs associated with service order processing, pre-construction survey, design and engineering, space preparation, and construction management and coordination.

(3) Interconnector-Specific Construction. Interconnector-specific construction direct costs include the costs for interconnector-specific space construction, *e.g.*, cage construction, cage lighting, and alternating current (AC) power.[137]

(4) Common Construction. Common construction direct costs include costs related to central office construction required for provision of collocation services that cannot be attributed to a specific interconnector, including (a) all design, engineering, and project management for common construction; and (b) all actual common construction, *e.g.*, common environmental conditioning,

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[133] *Id.* at 6911-12.

[134] *Id.* at 6911.

[135] Functions are the activities that LECs perform in providing physical collocation service. The TRPs developed by the Bureau in the *Designation Order* disaggregated physical collocation service into 14 functions because of the variety of rate structures adopted by the LECs and the difficulty in determining exactly what costs are recovered by particular rate elements. *Designation Order*, 8 FCC Rcd at 6911-12. Each LEC was required to categorize its rate elements into the 14 categories. Depending on the rate structure chosen by an individual LEC, a particular function may include several rate elements.

[136] All costs not associated with occupancy, *e.g.*, DC power equipment and termination equipment, are excluded.

[137] Costs relating to DC power installation, security installation, termination equipment, and common construction are excluded.

common lighting, and common floor reconditioning.[138]

Costs of the Cross-Connection Between the Interconnector's and the LEC's Networks

(5) Cross-Connection Provisioning. Cross-connection provisioning direct costs include costs associated with service order processing, circuit design, installation, and testing for the cross-connection between the interconnector's space and the LEC's main distribution frame (MDF).

(6) Cross-Connection Equipment. Cross-connection equipment direct costs include costs for all equipment between the interconnector's space and the LEC's MDF, *e.g.*, repeaters.[139]

(7) Cross-Connection Cable and Cable Support. Cross-connection cable and cable support direct costs include the costs for all cabling and cable support structures between the interconnector's space and the LEC's MDF.

(8) Termination Equipment. Termination equipment direct costs include the costs for all LEC-provided equipment in or adjacent to the interconnector's space that is used for cross-connection functions, except the cross-connection itself, *e.g.*, point of termination (POT) frames, DSX boards, as well as equipment bays and other equipment installed by the LEC in the interconnector's space.

Electric Power Costs

(9) DC Power Installation. DC power installation direct costs include all costs for installation of DC power equipment for use by the interconnector.

(10) DC Power Generation. DC power generation direct costs include the costs for providing DC power, excluding DC power installation costs.

Security Costs

(11) Active Security. Active security direct costs include the costs for providing additional security attributable to collocation, excluding security installation costs. This function includes the costs of providing extra security guards or escort service.

(12) Security Installation. Security installation direct costs include all the costs for

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[138] Cost related to direct current (DC) power installation and security installation are excluded.

[139] Cable, cable support, and all termination equipment are excluded from this function.

all construction associated with additional security needs attributable to collocation.

Costs of the Facilities Connecting the Interconnector's Node Inside the Central Office to Its Network Outside the Building

(13) Entrance Facility Installation. Entrance facility installation direct costs include the costs of installing an interconnection arrangement from the manhole to the interconnector's space. The term "interconnector's space" refers to the central office area where the interconnector's cage would ordinarily be located.

(14) Entrance Facility Space. Entrance facility space direct costs include the costs of conduit, vault, riser, and similar space used to support an interconnection arrangement from the manhole to the interconnector's space.

64. Annualized direct costs for each of the functions listed above are derived by multiplying the investment that a LEC makes to provide the function by annual cost factors associated with that investment. Annual cost factors represent the ratio of expense to the investment. LECs develop annual cost factors to compute: (1) the capital costs that are directly attributable to the investment, including depreciation expense, cost of money, and income taxes; and (2) the operating costs that are directly attributable to the investment, which include the maintenance expense, administrative and other expense, and property and other taxes.

65. In order to determine whether the LECs' rates comply with the "just and reasonable" requirements of Section 201 of the Act,[140] we examine the LECs' direct costs by analyzing data derived from (1) the LECs' direct cases filed pursuant to the Bureau's *Designation Order*, which required Tier 1 LECs to set forth their per unit monthly direct costs of providing physical collocation service on TRP charts developed by the Bureau and (2) data provided by LECs in *ex parte* filings.[141]

66. In the *Designation Order*, the Bureau directed the LECs to provide information on how they derived their direct costs of physical collocation. Specifically, the Bureau required the LECs to explain and to justify all cost factors, to explain whether investment

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[140] The *Local Competition Order* provides that the rates we prescribe for a LEC in the physical collocation tariff investigation under Section 201(b) of the Communications Act may be used by states as a proxy ceiling for the prices of equivalent facilities or services established under section 251(c)(6) of the Telecommunications Act of 1996. *See Local Competition Order*, 11 FCC Rcd at 15912. While this proxy ceiling may be used by the states on a temporary basis, in order to satisfy the separate statutory pricing standards found in sections 251 and 252(d)(1), the *Local Competition Order* requires that interconnection rates based upon this default proxy be updated after the state conducts or approves an economic study according to the cost-based pricing methodology set forth in that Order. *Id.* at 15884.

[141] *See* Section III.C.2.c.iii *infra*.

amounts are calculated on a prospective basis, to justify depreciable lives used for equipment listed on their TRPs, to describe how they estimated labor costs, and to justify the cost of money used in rate calculations.[142] In addition, the Bureau required the LECs to provide certain cost support data in a uniform format specified in TRP charts designed by the Bureau.[143]

67. We conduct our analysis of the LECs' direct costs in two steps. First, we examine all the LECs' direct cost justifications on a case-by-case basis.[144] Based on this analysis, we are making disallowances where we find that LECs miscalculate their direct costs or use improper methodologies for calculating their direct costs. In particular, we are making disallowances to LECs' direct costs that include excessive amounts for the costs of money, maintenance, administrative activities, income taxes, depreciation, inflation, floor space, and construction.

68. Second, we compare all the LECs' direct costs on a function-by-function basis. We perform our function-by-function analysis by developing industry-wide average direct costs and calculating the standard deviation of those costs relative to the average for each function associated with providing physical collocation. For reasons described in detail below, if a LEC has direct costs for a particular function that are greater than one standard deviation above the industry-wide average direct cost for that function, we tentatively identify that LEC as an outlier with respect to the particular function, and engage in further scrutiny.[145] If the LEC's direct case fails to justify direct costs that exceed the average plus one standard deviation, we disallow the direct costs to the extent that they exceed one standard deviation above the average. Again, we explain the rationale for this approach in detail below.[146]

1. Case-by-Case Direct Cost Analysis

a. Annual Cost Factors

69. LECs develop cost factors, called "annual charge factors," "annual percentage factors," or "carrying charge factors," to determine the dollar amount of recurring costs associated with acquiring and using particular pieces of investment required to provide a particular telecommunications service for a period of one year. LECs develop these annual

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[142] *Designation Order*, 8 FCC Rcd at 6912-13.

[143] *Id.* at 6911.

[144] Our "case-by-case" examination refers to our analysis of each LEC's direct costs individually, without statistical comparison to the direct costs of all of the other LECs.

[145] *See* Sections III.C.2.a, III.C.2.b, and III.C.2.c *infra*.

[146] *See id.*

cost factors for each category of plant investment required for a given service and these factors represent a ratio of expense to investment for individual types of plant investment.

70. There are two types of costs associated with investment: capital costs and operating costs. The capital costs are depreciation, cost of money, and income taxes. Operating costs are maintenance costs, administrative costs, and property and other taxes. LECs develop separate annual cost factors for each of these expenses. LECs estimate the annual recurring cost they incur for a particular piece of investment by multiplying the dollar amount of a particular piece of investment by the annual cost factors for depreciation, cost of money, income taxes, maintenance, administrative, and property and other taxes. LECs specifically develop these cost factors either for the piece of investment or the particular category of plant investment to which the piece of investment is assigned. The sum of the resulting depreciation, cost of money, income taxes, maintenance costs, administrative costs, and property and other taxes represents the total annual costs for that particular piece of investment.

i. Cost of Money

71. Background. In the *Designation Order*, the Bureau requested that the LECs justify the percentage cost of money used in their rate calculations, as displayed on each TRP chart.[147] The percentage cost of money represents the annual percentage rate of return that a company's debtholders and equityholders require as compensation for providing the debt and equity capital that the company uses to finance its assets.[148]

72. In developing their rates for physical collocation service, CBT, GSTC, GTOC, Lincoln, Nevada, NYNEX, Pacific, Rochester, United, and Central use a percentage cost of money equal to the Commission's authorized rate of return of 11.25 percent.[149] Ameritech calculates its rates using a percentage cost of money equal to 10.9 percent, Bell Atlantic uses 12.8 to 13 percent, BellSouth uses 13.34 percent, SWB uses 12.32 percent, and US West uses 11.5 percent.[150] SNET uses a percentage cost of money equal to 11.34 percent to develop the

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[147] *Designation Order*, 8 FCC Rcd at 6913.

[148] We are using the terms "percentage cost of money" and "cost of capital" interchangeably in this Order.

[149] *See* CBT Rebuttal at 5; GTE Direct Case at 6; Lincoln Direct Case at 3; Nevada Direct Case at 2; NYNEX Direct Case at 10; Pacific Direct Case at 23; Rochester Transmittal No. 183, Attachment at 1; United and Central Rebuttal at 11.

[150] Ameritech Direct Case at 2; Bell Atlantic Direct Case at 6; BellSouth Direct Case at 7; SWB Direct Case, Appendix 2, Exhibit 1 at 2; US West Direct Case at 30. US West uses a percentage cost of money equal to 10.29 percent as a discount rate to compute the present value of recurring costs for which a nonrecurring charge was developed. US West provides no explanation for the use of two different costs of capital.

rates set forth in its direct case.[151] On November 12, 1993, SNET filed Transmittal No. 584, which revised its rates for physical collocation based on a percentage cost of money equal to 10.33 percent.[152]

73. Discussion. LECs that use a percentage cost of money greater than 11.25 percent argue that their rate is based on forward-looking estimates of their weighted average cost of capital and that this methodology yields the minimum rate required to attract debt and equity capital to finance their investments. We reject this argument, and decline to engage in a detailed consideration of the appropriate rate of return in applying the new service test to price cap carriers. In the *Rate of Return Represcription Order*, we determined that a rate of return of 11.25 percent would provide LECs with sufficient opportunity to recover their interstate cost of capital.[153] In particular, we determined an embedded cost of debt, a debt/equity ratio, and a range of reasonable estimates of the cost of equity for interstate access service.[154] We combined these components to determine a range of reasonable estimates of the overall weighted average cost of capital for interstate access service.[155] After identifying this "zone of reasonableness," we then prescribed, based on policy considerations, a unitary rate of return that was toward the upper end of the zone of reasonableness.[156]

74. We find that those LECs that use a percentage cost of money in excess of 11.25 percent fail to make an adequate showing to justify a higher rate. These LECs fail to demonstrate how their cost of debt, cost of equity, or capital structure -- the three components used to calculate the weighted average cost of capital -- are higher for physical collocation than for their other interstate access services. They do not provide any detailed financial data or study, for example, on either their embedded or current cost of debt capital. Moreover, no LEC seeking to use a percentage cost of money in excess of 11.25 percent adequately identifies or describes the source, type, and time period of the financial data, or the assumptions, and the methodologies that it uses to develop its cost of equity. In addition, the LECs do not provide any justification for their use of any particular embedded or target capital structure. Finally, in the *Represcription Reform Order*, we decided to retain a unitary rate of return for LECs in part because developing a separate rate for each LEC would impose

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[151] SNET Direct Case, Attachment 1.

[152] SNET Transmittal No. 584, Description and Justification, filed November 12, 1993.

[153] Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers, CC Docket No. 89-624, 5 FCC Rcd 7507 (1990) ("*Rate of Return Represcription Order*"), *recon.*, 6 FCC Rcd 7193 (1991), *affirmed,* Illinois Bell Telephone Co. v. FCC, 988 F.2d 1254 (D.C. Cir. 1993).

[154] *Rate of Return Represcription Order*, 5 FCC Rcd at 7508.

[155] *Id.*

[156] *Id.* at 7509.

an unnecessary cost on this Commission and on LECs and their ratepayers.[157] The approach suggested by the LECs, whereby separate rates of return would be developed for separate services offered by a LEC, such as expanded interconnection, would be even more burdensome than the approach we rejected in the *Represcription Reform Order*.

75. We find, therefore, that the rates of return of Bell Atlantic, BellSouth, SWB, and US West are unjust and unreasonable under Section 201(b) of the Act. Accordingly, pursuant to Section 205(a) of the Act, we require these companies to recalculate their rates for expanded interconnection service through physical collocation using a percentage cost of money that does not exceed 11.25 percent. These LECs also must recalculate the amount of state and local income taxes that such rates must recover. The tax adjustment is necessary because a lower rate of return results in a lower corporate income tax liability. In addition, we require these LECs to calculate and refund to their interconnector-customers the amount that is the difference between the actual physical collocation revenues they obtained during the applicable time periods with respect to each rate element and the revenues that they would have obtained during such time periods based on rates calculated to recover an 11.25 percent rate of return and the amount of income taxes consistent with this rate of return. We also find that SNET must calculate and refund to its interconnector customers the amount that is the difference between the actual physical collocation revenues it obtained during the period from the date of its initial physical collocation tariff filing through the effective date of Transmittal No. 584, and the revenues that it would have obtained during this same period of time based on rates calculated to recover an 11.25 percent rate of return and the amount of income taxes that is consistent with this rate of return.

76. LECs average the cost of money in dollars per year over the life of the assets used to provide expanded interconnection service. As a result, the LECs' average cost of money in dollars per year expressed as a percentage of the gross investment amount displayed on their TRP charts may differ from their actual estimate of their percentage cost of money even in those cases where they claim a cost of money of 11.25 percent. We note that such averaging is a standard costing practice in the industry and find that such practice is reasonable because rates would otherwise have to be recalculated annually to reflect a lower dollar cost of money in succeeding years as a constant percentage cost of money is applied to a progressively smaller remaining undepreciated investment balance over the life of the investment. Accordingly, we find that differences that arise because of such averaging are not unreasonable, provided that rates for expanded interconnection are based on a percentage cost of money no greater than 11.25 percent.

ii. CBT's Annual Cost Factors

77. Background. CBT uses annual charge percentages to develop the depreciation

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[157] Amendments of Parts 65 and 69 of the Commission's Rules to Reform the Interstate Rate of Return Represcription and Enforcement Processes, CC Docket No. 92-133, 10 FCC Rcd 6788, 6797 (1995) ("*Represcription Reform Order*").

expense, cost of money, federal income tax, property tax, maintenance expense, and administrative and other expense for each function on its TRP charts. In particular, CBT multiplies the annual charge percentages, which are the ratios of the expenses to investment, by an investment amount required for a particular physical collocation function to determine the annual recurring costs incurred in connection with that investment.[158] In addition, CBT uses land and building factors to allocate to physical collocation the land and building investments associated with central office equipment investment.[159] CBT also uses central office common equipment factors to allocate common equipment to central office equipment investment.[160]

78. Discussion. As noted above, direct costs are capital costs (*i.e.*, depreciation, cost of money, and income taxes) and operating costs (*i.e.*, maintenance costs, administrative and other costs, property and other taxes) that are attributable to physical collocation service.[161] Based on our review of CBT's direct case, however, we find that CBT develops its annual charge percentages by using a fully distributed costing methodology. Thus, CBT unreasonably overstates the direct costs of physical collocation service because it includes general overhead costs as part of its direct costs. As a general matter, such an approach might be appropriate for a rate-of-return carrier such as CBT, except that CBT also seeks to recover an additional amount for overhead costs. We conclude that such double recovery of overhead costs is unreasonable.

79. CBT calculates its annual charge factor for maintenance by dividing maintenance expenses for each plant account by the average booked investment.[162] These maintenance expenses consist of the actual labor amounts CBT charges to maintenance, including social security taxes and payroll related benefits. The maintenance expenses also include miscellaneous maintenance expenses for items such as subscriber line testing, trunk testing, building maintenance, and power.[163] We find that these miscellaneous maintenance expenses are not direct costs identifiable with physical collocation. Subscriber line testing and trunk testing are not part of a standard physical collocation offering and the maintenance expenses associated with these activities are, therefore, not properly recovered as a direct cost of providing physical collocation service. Moreover, miscellaneous building maintenance and power expenses are not costs that are directly attributable to physical collocation because these are common to all of CBT's telecommunications services. Accordingly, we find that it is

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[158] CBT Direct Case, Exhibit A at 2.

[159] *Id.* at 5.

[160] *Id.* at 4.

[161] *See* para. 63 *supra.*

[162] CBT Direct Case, Exhibit A at 3-4.

[163] *Id.*

unreasonable to allow CBT to recover maintenance expense for these miscellaneous items as direct costs. We therefore order CBT to recalculate all of its rates to exclude the claimed direct cost allowance for the miscellaneous maintenance expense for all of the miscellaneous items and to calculate the refunds that are the result of this disallowance for charges that were collected on or after December 15, 1994.

80. Further, we disallow a portion of CBT's claimed direct cost allowance for administrative and other expenses and general services expenses because such expenses are not directly attributable to physical collocation service. CBT's administrative and other expense on its TRP charts has two components: (1) administrative and other expenses;[164] and (2) general service expenses.[165] We find that CBT's claimed direct cost allowance for administrative and other expenses and general services expenses on its TRP charts improperly includes fully distributed or assigned expenses.[166] These fully distributed expenses include both the direct administrative and other expenses and the direct general services expenses attributable to providing physical collocation service and an allocated portion of those administrative and other expenses and general services expenses that are joint or common to all of its regulated and nonregulated telecommunications services. This is not a correct accounting of direct costs. CBT's executive expenses, general operations expenses and the management fees it pays to its corporate parent for work done on its behalf by that parent, for example, are expenses that are not traceable to any particular service, such as expanded interconnection, and are not direct costs. Accordingly, we find that CBT's claimed direct cost allowance for administrative and other expenses and general services expenses on its TRP charts are unjust and unreasonable. We therefore order CBT to recalculate its direct costs for every physical collocation function for which it incurred administrative and other expenses and general services expenses and, consistent with this requirement, calculate the appropriate level of refunds. In recalculating its direct costs, CBT must ensure that such costs are directly attributable to physical collocation service.

81. Furthermore, we disallow CBT's claimed direct cost allowance for central

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[164] CBT develops the administrative and other expenses by multiplying fully assigned administrative and other expense annual charge factors as derived from its part 32 accounts by the investment amounts required for physical collocation. The fully assigned administrative and other expenses that are the result of this operation include: accounting operations expenses associated with development, training, conversions and upkeep of procedures and certain mechanized systems associated with customer data processing; business operations (both staff and line); advertising expenses; certain sales expenses; general operations expenses associated with external affairs and network and plant administrations; executive expenses; legal expenses; accident expense; and insurance expenses. *Id.* at 4.

[165] CBT develops the general services expenses component of its administrative and other expense on its TRP charts by multiplying a general services expense annual charge factor as derived from its Part 32 accounts by the investment amounts required for physical collocation. The general services expenses consist of costs for support services from Bellcore plus management fees charged when CBT's parent company, CBT Bell Inc., performs work for CBT. *Id.* at 4.

[166] CBT includes administrative and other expenses and general services expenses in every function for which it developed recurring direct costs.

office common equipment. The common equipment includes distribution frames, protector frames, central office dedicated tools, power equipment, etc.[167] This equipment is not an allowable direct cost because it is common equipment that is not used for the provision of physical collocation service. Accordingly, we find that CBT's proposed direct cost allowance for central office common equipment is unjust and unreasonable. CBT must, therefore, recalculate its direct costs and its rates to exclude the common equipment expenses and calculate the appropriate amount of the refund that is consistent with these new rates.

82. Finally, we disallow CBT's claimed direct cost allowance for expenses it derives from the land and the building investment associated with the common equipment investment portion of central office equipment investment.[168] We disallow the direct costs that CBT claims, based on its allocation to physical collocation service of the land and the building investment associated with the common equipment investment, because common equipment is not used for the provision of physical collocation service and is, therefore, not a direct cost. Accordingly, we find that CBT's claimed direct cost allowance for the land and building investment associated with common equipment is unjust and unreasonable. CBT must, therefore, recalculate its direct costs and its rates to exclude the costs associated with the land and building investment allocated for common equipment and calculate the appropriate amount of the refund that is consistent with these new rates.

iii. GTE's Income Tax Calculations

83. Background. GTE develops each of its recurring rates so as to recover an allowance for federal and state income taxes based on an after-tax 11.25 percent rate of return and the applicable composite federal and state income tax rate.[169] GTE develops its recurring rates to recover the average annual federal taxes and the average annual state income taxes on

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[167] CBT develops its common equipment factor by dividing direct and common central office equipment investment by common equipment investment. This factor is used to allocate common equipment investment to central office equipment investment. The central office equipment investment, including the allocated portion of the common equipment investment, is the investment amount to which CBT applies annual charge factors in developing its physical collocation direct costs. *Id.* at 5.

[168] CBT applies land and building factors to central office equipment investment, including common equipment investment, to allocate land and building investment associated with central office equipment to physical collocation. CBT then applies annual charge factors to the allocated land and building investment for the purpose of developing its direct physical collocation costs. CBT Direct Case, Exhibit A at 4.

[169] More specifically, GTE computes the income tax allowance by calculating: (1) the annual dollar returns for each year of the revenue life of an investment by multiplying the after-tax 11.25 percent rate by the average annual undepreciated value of the investment; (2) multiplying the annual dollar returns by the applicable federal income tax factor to compute the allowance for federal income taxes for each year and then averaging these annual allowances, which yields the average annual allowance for federal taxes; and (3) multiplying the annual dollar returns by the applicable state income tax factor to compute the allowance for state income taxes for each year and then averaging these annual allowances, which yields the average annual allowance for state income taxes. GTE Transmittal No. 771 at A-3.

a monthly basis.

84. Discussion. GTE miscalculates its allowance for state and federal income taxes. By applying the federal and state income tax factors to the entire amount of the dollar return on investment, GTE assumes that the entire return accrues to equityholders. The dollar return, however, is comprised of an amount that covers the interest on outstanding debt to debtholders and an amount that covers the dividends on the outstanding equity or retained earnings to equityholders. The amount that covers the interest on the debt is tax deductible, while the amount that is used to pay dividends or is kept as retained earnings is subject to taxes. GTE is financed with a mixture of debt and equity capital and by applying the federal and the state income tax factors to the entire return, GTE overestimates its tax liability. Accordingly, we find that GTE's allowance for federal and state income taxes is unjust and unreasonable. GTE must subtract its interest payments from its return and then apply the federal and the state income tax factors to the remainder, which is the return to equityholders. We therefore order GTE to recalculate its rates to comply with the requirements for computing federal and state income taxes set forth herein. GTE must also calculate the appropriate amount that is consistent with these new rates.

85. GTE's tax allowance also fails to recognize that state income taxes are generally deductible in calculating federal income taxes.[170] Accordingly, we find that GTE's direct cost allowance for federal income taxes is unjust and unreasonable. In computing its tax liability, GTE must reduce its taxable income to reflect this deduction. We therefore order GTE to recalculate its rates to account for the deductibility of state income taxes in the computation of federal income taxes. GTE must also calculate the appropriate amount of the refund that is consistent with these new rates.

iv. US West's Recovery of Depreciation, Cost of Money and Income Taxes

86. Background. US West establishes several nonrecurring rate elements for the purpose of recovering depreciation, the cost of money, and income taxes for certain investments. These rate elements are those US West identifies in its TRP charts as: (1) "DS1 EICT [Expanded Interconnection Channel Termination]" under the DS1 cross-connection provisioning function; (2) "DS3 EICT" under the DS3 cross-connection provisioning function; (3) "Quotation Preparation Fee" under the construction provisioning function; (4) "Inspector (During normal business hours)" under entrance facility installation; and (5) "Inspector (Out of normal business hours)" under entrance facility installation.[171]

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[170] *Id.*

[171] This information is contained in US West's TRP charts for the DS1 cross-connection provisioning function, the DS3 cross-connection provisioning function, the construction provisioning function and the entrance facility installation function. *See* US West Direct Case, Appendix A.

87. Discussion. We disallow cost recovery of depreciation, cost of money, and income taxes for the above referenced rate elements because US West fails to identify, quantify, or explain adequately the investment on which these costs are based. Depreciation, the cost of money, and income taxes are expenses that may be recovered from charges for regulated services only if they are directly related to clearly identifiable investments used to provide those services. In this case, where US West does not make an adequate showing of the identity or the amount of the investments or of the direct relationship of these investments to physical collocation, we find that it is unreasonable for US West to recover the depreciation, cost of money, or income taxes associated with these investments. Accordingly, we order US West to recalculate these rates to exclude depreciation, cost of money, and income taxes. US West must also calculate the appropriate amount of the refund that is consistent with these new rates.

v. Nevada Bell's Depreciation Expense for Initial Capital Outlay

88. Background. For several functions, Nevada Bell develops recurring rates and nonrecurring rates designed to recover the depreciation of the same initial capital outlay.[172] Nevada states that the depreciation for which it imposes a recurring rate recovers the value of the initial capital outlay in equal monthly amounts over the estimated useful life of the investment.[173] The "depreciation" for which Nevada assesses a nonrecurring rate is for the "cost of removal" and the "non-recoverable cost."[174] According to Nevada, the cost of removal represents the one-time expense to remove the investment immediately after it has been installed[175] and the nonrecoverable cost represents the at-risk costs should the customer disconnect the service before Nevada has a chance to recover the cost through the recurring rate element.[176]

89. Discussion. We disallow the amount of the depreciation Nevada recovers in its nonrecurring rates for removing the assets comprising Nevada's initial capital outlay. We find that Nevada makes no showing that there is any need to remove this investment after an interconnector has vacated one of Nevada's central offices. Moreover, we believe that this

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[172] *See* Nevada's TRP Charts, Letter from Jo Ann Goddard, Director, Regulatory Relations, Pacific Telesis to Carol Canteen, Tariff Division, FCC (dated May 20, 1994).

[173] *Id.*

[174] Nevada Direct Case, Appendix C.

[175] *Id.*

[176] The particular rate elements that Nevada establishes to recover depreciation on a recurring basis and on a nonrecurring basis (for the cost of removal and the non-recoverable cost) are identified in its TRP charts as: "EIS Channel Termination DS1"; "EIS Channel Termination DS3"; Interconnection Chamber - RENONV02, RENONV13, CRCYNV01, and SPRKNV11"; "Power - Preferred DC"; and "Conduit." *Id.*

investment (*e.g.*, cage, cable rack, and conduit) could be reusable by a subsequent interconnector and Nevada makes no showing to the contrary. Furthermore, assuming that the investment would not be reusable by a subsequent interconnector, Nevada did not demonstrate that it would need to remove the investment because Nevada makes no showing that it currently lacks space within its central offices to satisfy its own need for expansion. In addition, Nevada provides no explanation or data support for the estimated cost of removing the investments. Accordingly, we find that Nevada's nonrecurring rate for removing the initial capital outlay is unjust and unreasonable, and we, therefore, order Nevada to recalculate its rates to exclude the amount of depreciation it seeks to recover for removing the assets associated with that outlay. Nevada also must calculate the refund amount that is consistent with these new rates.

90. We also disallow the amount of depreciation Nevada recovers in its nonrecurring rates for the nonrecoverable cost that could arise if an interconnector disconnects prior to the time Nevada has fully recovered the value of its investment through its recurring rate. We find that this nonrecurring rate is unjust and unreasonable because, as its tariff is structured, Nevada would recover its investment twice if the interconnector uses that investment for a period longer than Nevada predicted in developing this cost. Nevada may recover the amount of its depreciation over the useful life of an investment through a recurring rate, or it may recover the investment up front in an amount that does not exceed the initial capital outlay. Nevada may not, however, recover a single investment through both a recurring and a nonrecurring rate. If Nevada chooses to recover depreciation on a recurring basis, Nevada may impose a one-time charge on the interconnector at the time of disconnection in the event that a second interconnector does not take the place of the first interconnector, but this charge may not exceed the undepreciated value of the investment. Moreover, where such a charge is imposed, Nevada must refund a portion of the undepreciated investment if a second interconnector eventually succeeds the first interconnector and the investment still has a remaining useful life. We find that this will ensure that Nevada is fully compensated for its initial capital outlay, regardless of whether the first interconnector decides to vacate the collocation space in Nevada's central office before the end of the useful life of the equipment. At the same time, it ensures that neither the initial interconnector nor subsequent interconnectors pay more than their fair share of the cost of the initial capital outlay. Accordingly, we order Nevada to recalculate its rates to conform to the requirements set forth herein for the recovery of depreciation. Nevada must also calculate and refund the amount of any actual revenues collected that are in excess of those it would have obtained if its rates were calculated in accordance with the requirements for the recovery of depreciation set forth in this paragraph.

vi. Bell Atlantic's Inflation Factor

91. Background. Bell Atlantic states that in developing the investment on which its recurring rates are based, it may have used an inflation factor to adjust vendor prices. According to Bell Atlantic, such a factor may have been used when vendors' price lists are

different from the previous year.[177] In addition, Bell Atlantic's calculations reveal that its AC power costs are adjusted by an inflation factor equal to 11.20 percent.[178]

92. Discussion. We disallow any amount in Bell Atlantic's rates that represents an inflation adjustment for vendor prices. We find that an inflation adjustment for vendor prices is unjust and unreasonable because Bell Atlantic does not identify the specific investments or costs that were adjusted for inflation and it does not identify the magnitude of the adjustment. Moreover, we find that it is unreasonable for Bell Atlantic to apply an inflation factor to old vendor prices when it could calculate the amount of the investment by using current vendor prices. We find that Bell Atlantic should use updated vendor prices rather than dated vendor prices, adjusted by a forecast of changes in those prices, because we find actual prices produce more accurate cost estimates. In our view, the benefits of more accurate cost estimates outweigh the minimal burden of obtaining up-to-date prices. Moreover, the cost of telecommunications equipment has been declining, relative to inflation, in recent years.

93. We also disallow the inflation factor Bell Atlantic uses to adjust AC power costs. Although Bell Atlantic quantifies the size of the inflation factor it uses to adjust AC power costs, we find that this inflation adjustment is unjust and unreasonable because Bell Atlantic does not provide supporting data or adequately explain the method it uses to derive that factor. Moreover, the magnitude of the adjustment, 11.2 percent, is so large in comparison to the rate of inflation for the economy as a whole that the adjustment is unreasonable, in absence of supporting information. Accordingly, we direct Bell Atlantic to recalculate its rates to exclude any inflation adjustment for either vendor prices or AC power costs. Bell Atlantic also must calculate and make the refunds that are consistent with this disallowance.

b. Floor Space Costs

i. Background

94. In the *Special Access Expanded Interconnection Order*, we concluded that the public interest compels tariffing of central office space usage under physical collocation in order to prevent anticompetitive or discriminatory pricing.[179] In requiring that LECs provide floor space on a nondiscriminatory, common carrier basis, we specified that floor space charges must be tariffed at a uniform charge for all interconnectors in any given central office.[180] We did not, however, prescribe a methodology for developing floor space charges.

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[177] Bell Atlantic Direct Case, Attachment B at 2.

[178] Bell Atlantic Direct Case, Attachment B, Exhibit 14.

[179] *Special Access Expanded Interconnection Order*, 7 FCC Rcd at 7443.

[180] *Id.* at 7442.

ii. Discussion

95. Bell Atlantic's Recovery of Administrative Costs. We affirm the Bureau's finding in the *Physical Collocation Tariff Suspension Order* that Bell Atlantic's methodology leads to double recovery of administrative costs for periodic review of each central office.[181] Bell Atlantic determines floor space costs by calculating a "full service market rental rate," which incorporates operating costs from Building Owners and Managers Association (BOMA) data, and adds administrative costs for the periodic review of central offices.[182] We find that this constitutes double recovery because Bell Atlantic's full service market rental rate already includes the overhead costs for the average landlord, including an average landlord's periodic review of the space. Moreover, Bell Atlantic does not make an adequate showing that it incurs administrative costs related to providing space for expanded interconnection that are greater than those of the average owner of standard commercial office space. Although Bell Atlantic provides a general discussion of how it differs from the average landlord, it makes no attempt to quantify those differences. In the absence of such quantification, we find the adjustment for administrative expenses that Bell Atlantic claims is unreasonable. The administrative costs Bell Atlantic claims for periodic review of central offices are $1.17 per square foot per month. We therefore affirm the direct cost disallowance of the amount of those expenses that the Bureau made to Bell Atlantic's rates for floor space in the *Physical Collocation Tariff Suspension Order*.[183] Accordingly, Bell Atlantic must calculate and make the appropriate refunds for the improper floor space charges imposed on the interconnectors.

96. Access Area Charges. We also find that the amount of Pacific's floor space rates that recovers the direct cost of the 30 square foot "access area" outside of the cage is unreasonable because this area is common space and the cost for this area is, therefore, not a direct cost of physical collocation service. Pacific does not make an adequate showing that an interconnector requires 30 square feet to obtain access to its enclosed physical collocation space and does not demonstrate that this 30 square foot area is dedicated to the exclusive use

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[181] *Physical Collocation Tariff Suspension Order*, 8 FCC Rcd at 4598-99. According to Bell Atlantic, it "must make continuing, additional complex assessments of its needs for and use of space within telecommunications central offices in light of the additional occupancy required under the Commission's collocation mandates." Bell Atlantic Direct Case, Attachment B at 22. Bell Atlantic states that it must, for example, periodically review switch expansion plans that may change with increased demand and changes in technology. *Id.* Bell Atlantic also claims that it also must make a comprehensive security assessment because it houses sensitive telecommunications equipment that it uses to provide service to a large number of people. *Id.*

[182] Bell Atlantic also adds extraordinary costs that distinguish central office space from standard commercial office space using R.S. Means data. *See* Bell Atlantic Transmittal No. 557, filed February 16, 1993; Bell Atlantic Direct Case, Attachment B at 20.

[183] Bell Atlantic determines the direct costs of floor space separately for each of its central offices and tariffs a separate rate for each such office. Bell Atlantic applies the claimed $1.17 per square foot per month allowance for administrative costs uniformly in developing the direct costs of floor space for each central office. Therefore, Bell Atlantic's floor space rate for each central office varies from office to office, but each rate must be reduced equally by the direct cost disallowance of $1.17.

of any particular interconnector. In fact, we believe that there may be instances where a Pacific employee would walk through the 30 square foot area in the normal course of tending to Pacific's own business needs or those of another interconnector. Moreover, with the exception of US West, no other LEC proposes to recover as a direct cost floor space outside of the interconnector's cage. We therefore disallow the floor space direct cost that Pacific attributes to the extra 30 square feet of access space. Accordingly, Pacific must recalculate its rates to exclude an amount equal to this disallowance and calculate refunds for the improper floor space charges imposed on the interconnectors.

97. In addition, we disallow the amount of US West's floor space rates that recovers the direct costs of (1) floor space areas equal to 17 percent of US West's calculation of the market value of an enclosed physical collocation space (excluding property taxes and operating costs) used as "ingress/egress" space to access the interconnector's enclosure that US West concedes are common to the building; (2) property taxes on the market value of those floor space areas of ingress/egress that are common to the building; and (3) property taxes on areas equal to 40 percent of US West's calculation of the market value of an enclosed physical collocation space (excluding property taxes and operating costs) that US West asserts are not common to the building and were created to access the enclosure.[184] We find these costs are unreasonable because US West does not make an adequate showing that floor space outside of the area below a standard enclosure is required to enable an interconnector to access its enclosed physical collocation space. Moreover, we find that US West does not demonstrate that this additional space is dedicated to the exclusive use of any particular interconnector. In addition, every LEC, other than US West and Pacific, develops its direct costs of physical collocation floor space on the basis of 100 square feet, which does not include any amount of floor space to access the interconnector's cage. Furthermore, US West concedes in its direct case that the 17 percent adjustment is for space to access the interconnector's enclosure that is common to a central office building. We therefore find that the space outside the interconnector's enclosure is common space and that the cost of such space, including any property taxes on that space, is not a direct cost of physical collocation. We therefore disallow that portion of US West's floor space direct costs, including property taxes, that US West attributes to access space to the standard enclosure space. Accordingly, US West must recalculate its rates to reflect this disallowance and calculate the appropriate refunds for the improper floor space charges imposed on the interconnectors.

c. US West's Common Construction Costs and SWB's Tenant Accommodation Charge

98. Background. US West asserts that its nonrecurring common construction cost includes: (1) a 20 percent contingency percentage multiplied by and added to the cost of the electric panel and the feed wiring to account for unknown barriers and obstacles that require additional labor and materials; (2) an Americans With Disabilities Act (ADA) adjustment of

[184] US West Direct Case at 20-22.

20 percent multiplied by and added to the sum of the cost of the panel, the feeder, and the contingency amount, to reflect the costs of complying with the provisions of ADA; and (3) a professional engineering services percentage of 15 percent multiplied by and added to the sum of the cost of the panel, feeder, contingency amount, and the ADA amount.[185]

99. SWB estimates costs for small, medium, and large central offices based on a sample comprised of 27 of the 127 central offices it tariffs for physical collocation.[186] SWB's nonrecurring charges for construction include contractor labor, SWB's project engineer's labor, outside consultant's labor, and a contracted construction observer's time.[187] SWB increases its construction costs by 10 percent to account for unforeseen conditions.[188]

100. Discussion. We disallow the portion of US West's nonrecurring common construction cost that is attributable to the 20 percent contingency factor and the 20 percent ADA factor. We also disallow the portion of SWB's "Tenant Accommodation Charge" that is attributable to the 10 percent factor added to construction costs for unforeseen conditions.[189] We find that these contingency factors are unjust and unreasonable because US West and SWB provide no evidence of the type of obstacle that might arise in the construction process, the likelihood that such obstacle could occur, or the potential magnitude of an obstacle's effect. We also agree with TDL that unforeseen barriers would seem to be particularly unlikely because central offices are specifically designed for the type of construction and use to which they would be put by interconnectors when they provide expanded interconnection through physical collocation.[190] In fact, it is noteworthy that most LECs develop and defend their rates for floor space by demonstrating the significant differences that exist between a typical central office building that is specifically designed for the provision of telecommunications-specific services and a typical commercial office building.[191] We also note that no other LEC finds it necessary to use such a factor in developing its nonrecurring

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[185] *Id.* at 11-12.

[186] SWB Direct Case, Appendix 3.

[187] *Id.*

[188] *See* Letter from William A. Blase, Jr., Southwestern Bell to Carol Canteen, Tariff Division, Common Carrier Bureau, FCC (dated May 21, 1993).

[189] SWB apportions the Tenant Accommodation Charge across the common construction function, the entrance facility installation function, and the security installation function. The 10 percent disallowance that we are making to the Tenant Accommodation Charge is mathematically equivalent to making separate 10 percent disallowances to the particular costs that are associated with each of these functions.

[190] TEL Opposition at 9.

[191] *See, e.g.*, Ameritech Direct Case at 13-14; BellSouth Direct Case at 3; Bell Atlantic Direct Case at 21; SWB Direct Case at 11-12; Ameritech Rebuttal at 6; Bell Atlantic Rebuttal at A-1; BellSouth Rebuttal at 2; SWB Rebuttal at 8; United and Central Rebuttal at 4.

construction costs. If US West, SWB, or any other LEC encounters any unforeseen obstacles in conjunction with its construction, it should file a new tariff with full cost support to justify recovery of the costs of surmounting the obstacle. Accordingly, we require US West and SWB to recalculate their rates to exclude the portion of their claimed allowances for construction costs that is attributable to the 20 percent and the 10 percent contingency factors, respectively. US West and SWB must also calculate the appropriate amount of the refund that is consistent with these disallowances.

101. We also find that US West's 20 percent ADA factor is unjust and unreasonable because US West makes no attempt to identify with any specificity the construction needed to comply with ADA. US West did not, for example, identify any specific construction activity that it would need to undertake, or any estimate of the dollar amount of the expenditure required to complete construction necessary to meet ADA obligations. In addition, no other LEC appears to apply a similar factor to its construction costs in arriving at a final estimate for common construction. Accordingly, we require US West to recalculate its rates to exclude the portion of its claimed allowance for common construction costs that is attributable to the 20 percent ADA factor. US West must also calculate the appropriate amount of the refund that is consistent with this disallowance.

102. ALTS, MFS, Sprint, and TDL argue that US West does not justify its professional engineering consultant factor.[192] We will not disallow any portion of US West's nonrecurring common construction cost that is attributable to US West's 15 percent professional engineering consultant factor at this time, however, because US West explains that the services of an engineering consultant are needed in order to certify compliance with certain health and safety code regulations that relate to design and construction of leased physical space. The parties opposing this cost present no argument or evidence on which to conclude that US West's use of and charge for such a professional is unreasonable. We accept US West's explanation as reasonable.

d. Charges for Repeaters and POT Bays

103. Some LECs recover the costs for repeaters and point of termination (POT) bays in their rates for cross-connection service. The POT bay or frame is a piece of equipment typically placed between the LEC's DSX bay, where cross-connection occurs, and the interconnector's multiplexing node.[193] Cables carrying multiple DS1 or DS3 circuits run from the LEC's equipment to the POT bay; identical cables run from the POT bay to the interconnector's space. A repeater is a type of circuit equipment that amplifies or regenerates electronic digital signals as they travel along cables within the central office.

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[192] ALTS Opposition at 24; MFS Opposition at 19; Sprint Opposition, Appendix A at 3; TDL Opposition at 9.

[193] A POT frame is the physical structure into which DSX panels and related hardware are installed. A POT bay is comprised of the POT frame and the DSX panels and related hardware that are installed in that frame.

i. POT Bays

104. Background. There are two types of POT bays: a passive POT bay and a POT bay that functions as a zero level signal test point. A POT bay that functions as a zero level signal test point provides both signal equalization and test access capabilities. In contrast, a "passive POT bay" provides test access but no signal equalization capability.[194] In the *Designation Order*, the Bureau asked each LEC that included a POT frame or bay as part of its investment assigned to any rate element to explain why this piece of equipment is necessary for provision of interconnection service and why interconnection cannot instead be established directly from the interconnector's cage to the main distribution frame.[195] The Bureau also asked SWB to explain the derivation of, and the justification for, the "in place factors" applied to vendor prices to obtain investment amounts for the POT frame rate element, interconnection rate element, and transmission arrangement rate element.[196]

105. Ameritech,[197] BellSouth, NYNEX, Pacific, SNET, SWB[198] and US West[199] include the POT bay as part of the investments on which their cross-connection rates are based.[200] Bell Atlantic, CBT, GTE,[201] Lincoln, Nevada,[202] Rochester, United, and Central[203] do

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[194] *See* Letter from Cronan Q. O'Connell, Director-Federal Relations, Ameritech to William F. Caton, Acting Secretary, FCC (dated June 3, 1994).

[195] *Designation Order*, 8 FCC Rcd at 6914.

[196] *Id.*

[197] Ameritech's original tariff filing required the interconnector to purchase an Ameritech-provided POT bay. Ameritech Transmittal No. 697, filed February 16, 1993. On August 13, 1993, Ameritech filed Transmittal No. 755, which unbundled POT bays as a separate rate element and permitted the interconnector to choose between providing its own POT bay or using one provided by Ameritech. Ameritech Transmittal No. 730, Description and Justification at 1-3, filed August 13, 1993. The POT bay Ameritech supplies provides both signal equalization and test access capabilities, thereby qualifying as a zero level signal point. The POT bay that the interconnector provides is a passive termination panel with test access but no equalization capability. *See* Letter from Cronan Q. O'Connell, Director-Federal Relations, Ameritech to William F. Caton, Acting Secretary, FCC (dated June 3, 1994).

[198] SWB also allows interconnectors to provision their own POT frames and DS1/DS3 interconnection arrangements. SWB Direct Case at 15-16.

[199] US West's DSX (POT bay) is placed within the interconnector's leased physical space. US West Direct Case at 57.

[200] Ameritech Direct Case, Appendix A at ii; BellSouth, Direct Case, Exhibit 4 at 8; NYNEX Direct Case, Appendix A at 5; Pacific Direct Case at 12; SNET Direct Case at 7; SWB Direct Case at 15; US West Direct Case at 57.

[201] GTE requires the interconnector to provide the cabling from the interconnector's equipment to the DSX cross-connect panel. GTE Direct Case at 20. According to GTE, the cross-connect panel is located in the POT bay as part of GTE's normal DS1 or DS3 arrangement. *Id.* GTE states that the patch panel is the only component that